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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,608	06/28/2001	Nawalage Florence Cooray	122.1457	4846

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EXAMINER

TALBOT, BRIAN K

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,608

Applicant(s)

COORAY, NAWALAGE
FLORENCE

Examiner

Brian K Talbot

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The Amendment filed 5/22/03 and response filed 6/20/03 have been considered and entered. Claims 1-8 have been canceled. Claims 9-15 have been added and are the only remaining claims active in the case.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al. (6,297,351) in combination with Smith et al. (6,124,372).

Murayama et al. (6,297,351) depicts a fluorinated o-aminophenol polymer. The compounds of components include the same materials used as polymer precursors in the present invention, i.e. dicarboxylic acids (col. 4, line 6 – col. 5, line 7). The polymer is heat treated to form a film (col. 7, lines 27-32) and the dielectric constant can be determined and are 3.0 or less. Murayama et al. (6,297,351) teaches that the polymer film can be used to form multilayered circuit boards (col. 12, line 66 - col. 13, line 6). The polybenzoxazole was dissolved in NMP to form a varnish and Heating was performed up to 350°C (col. 7, lines 15-30).

Smith et al. (6,124,372) teaches the inclusion of thermosetting end groups onto polymers and monomers to enable crosslinking (claims 1 and 20). Smith et al. (6,124,372) teaches

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improved water absorption and high thermal strength due to the crosslinking (col. 19, line 64 – col. 20, line 47),

Therefore, it would have been obvious for one skilled in the art to have put thermosetting end groups on Murayama et al. (6,297,351) monomers as evidenced by Smith et al. (6,124,372) with the advantages associated therewith, i.e. lower water absorption and high thermal strength.

Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sezi et al. (6,153,350) in combination with Smith et al. (6,124,372) further in combination with Murayama et al. (6,297,351).

Sezi et al. (6,153,350) teaches a polybenzoxazole made from fluorinated o-aminophenol and fluorinated aromatic dicarboxylic acid precursors. (col. 8, line 33 – col. 9, line 53). The precursors are polymerized by heat treatment to form dielectric sheets (col. 1, lines 20-23). A solution is made by dissolving PBO in NMP and applying to a substrate. The film is dried at 120oC and heated at 350oC (col. 12, Example 3).

Sezi et al. (6,153,350) fails to teach thermosetting end groups.

Features described above concerning Smith et al. (6,124,372) and Murayama et al. (6,297,351) are incorporated here.

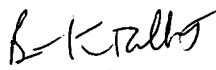
Therefore, it would have been obvious for one skilled in the art to have put thermosetting end groups on Sezi et al. (6,153,350) monomers as evidenced by Smith et al. (6,124,372) with the advantages associated therewith, i.e. lower water absorption and high thermal strength.

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K Talbot whose telephone number is (703) 305-3775. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P Beck can be reached on (703) 308-2333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3775.


Brian K Talbot
Primary Examiner
Art Unit 1762

BKT